CLAIMS

1. A panel structure comprising two sheets which are spaced apart to provide a void between, and are tied together by a plurality of tie means extending from one of the sheets to the other, the tie means being formed of substantially the same material as the sheets, and the sheets and the tie means forming an uninterrupted body of the material, the ties being arranged to leave unobstructed voids within the plane of the panel, and there being an elongate reinforcing member located within at least one of the voids.

2. A panel structure according to claim 1, wherein the ties are arranged across the sheets in a geometric lattice.

3. A panel structure according to claim 1 or 2, wherein the void between the sheets contains a material different to the sheets.

4. A panel structure according to claim 3, wherein the different material is an expanded material.

5. A panel structure according to any preceding claim, wherein the said material of the sheets and tie means is a thermosetting or thermoplastic plastics material, polymer material, metal or board material.

6. A panel structure according to any preceding claim, wherein the material of the sheets incorporates reinforcing fibres.

7. A panel structure according to any preceding claim, wherein the sheets are generally planar.

8. A panel structure according to claim 7, wherein the sheets are generally parallel.

9. A panel structure according to any preceding claim, wherein the tie means each consist of material of one or more sheets, deformed out of the plane of the corresponding sheet and fused to material of the other sheet.

10. A panel structure according to claim 9, wherein material of both sheets is deformed from the respective plane to be fused with material of the other sheet at a position between the sheets.

11. A panel structure according to claim 10, wherein the material of the sheets is fused midway between the sheets.

12. A panel structure according to claim 9, 10 or 11, wherein the material is deformed by a process which includes the application of heat.

13. A panel structure according to claim 9, 10, 11 or 12, wherein the material is deformed by a process which includes the application of pressure.

14. A panel structure according to any of claims 9 to 13, wherein the material is deformed to form hollow projections toward the other sheet.

15. A panel structure according to any of claims 9 to 13, wherein the material is deformed to form solid projections toward the other sheet.

16. A panel structure according to any of claims 9 to 15, wherein the projections are formed with pointed, rounded or flat peaks for fusion with corresponding peaks formed from the other sheet.

17. A panel structure according to any of claims 9 to 16, wherein no more than one half of the area of the sheets is deformed to form tie means.

18. A panel structure according to claim 17, wherein the sheets are substantially planar between areas of deformation.

19. A panel structure according to claim 17 or 18, wherein the sheets are deformed only at points, being substantially undeformed therebetween.

20. A panel structure substantially as described above, with reference to the accompanying drawings.

21. Any novel subject matter or combination including novel subject matter disclosed herein, whether or not within the scope of or relating to the same invention as any of the preceding claims.